

# Missouri Department of Natural Resources



## PUBLIC NOTICE

### APPLICATION FOR MISSOURI STATE OPERATING PERMIT

DATE: October 8, 2004

In accordance with the state Clean Water Law, Chapter 644, RSMo, Clean Water Commission regulation 10 CSR 20-6.010, and the federal Clean Water Act, the applicants listed herein have applied for authorization to either discharge to waters of the state or to operate a no-discharge wastewater treatment facility. The proposed permits for these operations are consistent with applicable water quality standards, effluent standards and/or treatment requirements or suitable timetables to meet these requirements (see 10 CSR 20-7.015 and 7.031). All permits will be issued for a period of five years, unless noted otherwise in the Public Notice for that discharge.

On the basis of preliminary staff review and the application of applicable standards and regulations, the Missouri Department of Natural Resources (MDNR), as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions. The proposed determinations are tentative pending public comment.

Persons wishing to comment on the proposed permit conditions are invited to submit them in writing to the Department of Natural Resources, Southeast Regional Office, 2155 N. Westwood Blvd., Poplar Bluff, Missouri, 63901, ATTN: Gary L. Gaines, P.E., Regional Director. Please include the permit number in all comment letters.

Comments should be confined to the issues relating to the proposed action and permit(s) and the effect on water quality. The MDNR may not consider as relevant comments or objections to a permit based on issues outside the authority of the Clean Water Commission, (see Curdt v. Mo. Clean Water Commission, 586 S.W.2d 58 Mo. App. 1979).

All comments must be postmarked by November 7, 2004 or received in our office by 5:00 p.m. on November 10, 2004. The requirement of a signed document makes it impossible to accept email comments for consideration at this time. Comments will be considered in the formulation of all final determinations regarding the applications. If response to this notice indicates significant public interest, a public meeting or hearing may be held after due notice for the purpose of receiving public comment on the proposed permit or determination. Public hearings and/or issuance of the permit will be conducted or processed according to 10 CSR 20-6.020.

Copies of all draft permits and other information including copies of applicable regulations are available for inspection and copying at DNR's website, <http://www.dnr.state.mo.gov/wpscd/wpcp/wpcp-pn.htm>, or at the Department of Natural Resources, Southeast Regional Office, 2155 N. Westwood Blvd., Poplar Bluff, Missouri, 63901, between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.

Public Notice Date: October 8, 2004  
Permit Number: MO-0124630  
Southeast Regional Office

| <b>FACILITY NAME AND ADDRESS</b>  | <b>NAME AND ADDRESS OF OWNER</b>  |
|---|---|
| USNPS, Round Spring WWTP<br>HCR 1, Box 132<br>Eminence, MO 65466          | National Park Service-ONSR (USNPS)<br>P.O. Box 490<br>Van Buren, MO 63965 |
| <b>RECEIVING STREAM &amp; LEGAL DESCRIPTION</b>                           | <b>TYPE OF DISCHARGE</b>  |
| Current River (Current River Basin)<br>Sec. 17, T30N, R4W, Shannon County | No-Discharge Domestic, reissuance   |

STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



**MISSOURI STATE OPERATING PERMIT**

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92<sup>nd</sup> Congress) as amended,

Permit No.: MO-0124630

Owner: U.S. National Park Service - ONSR (USNPS)

Owner's Address: P.O. Box 490, Van Buren, MO 63965

Operating Authority: Same as above

Operating Authority's Address: Same as above

Facility Name: USNPS, Round Spring Wastewater Treatment Plant

Facility Address: HCR 1, Box 132, Eminence, MO 65466

Legal Description: SW  $\frac{1}{4}$ , SW  $\frac{1}{4}$ , Sec. 17, T30N, R4W, Shannon County

Latitude/Longitude: +3717230/-09124313

Receiving Stream: Unnamed Tributary to Current River (U)

First Classified Stream and ID: Current River (P) (02636)

USGS Basin & Sub-watershed No.: (11010008-030005)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

**FACILITY DESCRIPTION**

Outfall #001 - Domestic Wastewater - SIC #4953

No-discharge System

Two cell storage lagoon/wastewater irrigation/sludge is retained in lagoon.

Design population equivalent is 38.

Design flow is 4,400 gallons per day (1-in-10 year design including net rainfall minus evaporation). Average design flow is 3,835 gallons per day (dry weather flows).

Actual flow is 4,200 gallons per day.

Design sludge production is 1.1 dry tons/year.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

Effective Date

Stephen M. Mahfood, Director, Department of Natural Resources  
Executive Secretary, Clean Water Commission

Expiration Date  
MO 780-0041 (10-93)

Gary L. Gaines, P.E., Director, Southeast Regional Office

FACILITY DESCRIPTION (continued)

Outfall #001 - Irrigation System Design

Receiving Stream Watershed: within 2 miles of a losing stream. (This stream was not listed as a losing stream in 10 CSR 20-7 Table J, but other streams in that area are shown as losing).

Facility Type: No-discharge Storage and Irrigation System for year round flows into lagoon.

| <u>Design Basis:</u>           | <u>Average Annual</u> | <u>Recreational Season (May-Sept)</u> | <u>Winter: (Oct-April)</u> |
|--------------------------------|-----------------------|---------------------------------------|----------------------------|
| Design dry weather flows       | <u>3,835 gpd</u>      | <u>9,050 gpd</u>                      | <u>150 gpd</u>             |
| Design with 1-in-10 year flows | <u>4,400 gpd</u>      | <u>9,400 gpd</u>                      | <u>432 gpd</u>             |
| Design Population Equivalent:  | <u>38</u>             |                                       |                            |

Storm Water Flows: (Shannon County)

|                              |                    |
|------------------------------|--------------------|
| Average Annual Rainfall      | <u>44.0 inches</u> |
| 1-in-10 Year Annual Rainfall | <u>56.0 inches</u> |
| 25-year-24-hour storm        | <u>6.0 inches</u>  |

|  |                |
|--|----------------|
| 1-in-10 year Flows:                                      | <u>Annual</u>  |
| Runoff concrete and roof areas                           | <u>3.8 ft.</u> |
| Runoff earth areas (lagoon berm, lots, etc)              | <u>0.0 ft.</u> |
| Rainfall minus Evaporation (R-E) on lagoon water surface | <u>2.1 ft.</u> |

|                           |                     |                          |  |
|---------------------------|---------------------|--------------------------|--|
| <u>Lagoon Dimensions:</u> | <u>Surface Area</u> | <u>Depth from Bottom</u> | <u>Pump down depth (from spillway)</u> |
|---------------------------|---------------------|--------------------------|--|

Basin 1

|   |  |
|---|--|
| Center Line Top Berm (Basin 1)                              | <u>N/A - Concrete Basin</u>                                    |
| Inside Top Berm (Basin 1)                                   | <u>3,136 sq.ft.</u> by <u>14</u> feet depth                    |
| Freeboard (top berm to spillway) (Basin 1)                  | <u>4</u> feet depth  |
| Emergency Spillway (Basin 1)                                | <u>Concrete Basin - No Spillway</u> <u>0.0</u>                 |
| Maximum operating level (Basin 1)                           | <u>2,304 sq.ft.</u> <u>10.0</u> feet depth <u>0.0</u> feet     |
| Minimum operating level (Basin 1)                           | <u>Constant Level of 10 ft</u> *2.0 ft can be used for storage |
| Aerobic BOD design basis - Aerated Basin 1                  | <u>10.0</u> feet depth   |
| Berm top width:   | <u>N/A-Concrete Basin</u>                                      |
| Berm runoff area (Inside to Maximum Water Level) (Basin 1): | <u>832</u> sq. ft.   |

Basin 2

|   |   |
|---|---|
| Center Line Top Berm (Basin 2)                              | <u>N/A - Concrete Basin</u>                               |
| Inside Top Berm (Basin 2)                                   | <u>4,064 sq.ft.</u> by <u>9</u> feet depth                |
| Freeboard (top berm to spillway) (Basin 2)                  | <u>2</u> feet depth                                       |
| Emergency Spillway (Basin 2)                                | <u>Concrete Basin - No Spillway</u> <u>0.0</u>            |
| Maximum operating level (Basin 2)                           | <u>3,566 sq.ft.</u> <u>6.0</u> feet depth <u>3.0</u> feet |
| Minimum operating level (Basin 2)                           | <u>4.0</u> feet depth <u>5.0</u> feet                     |
| Storage volume (minimum to maximum water levels) (Basin 2)  | <u>39,946</u> gallons                                     |
| Berm top width:   | <u>N/A - Concrete Basin</u>                               |
| Berm runoff area (Inside to Maximum Water Level) (Basin 2): | <u>498</u> sq. ft.  |

1-in-10 year Annual Storm water flows into lagoon (R-E) 17,380 cu.ft. (130,000 gallons)

|                                    | <u>Days of Storage</u> |                    |                     |
|------------------------------------|------------------------|--------------------|---------------------|
| <u>Storage Capacity: (Basin 2)</u> | <u>Average Annual</u>  | <u>May - Sept.</u> | <u>Oct. - April</u> |
| Design for Dry weather Flows:      | <u>11</u>              | <u>---</u>         | <u>---</u>          |
| Design with 1-in-10 year flows:    | <u>10 *</u>            | <u>4.3 *</u>       | <u>92 *</u>         |
| Design with 1-in-10 year flows:    | <u>17 **</u>           | <u>7.9 **</u>      | <u>172 **</u>       |

\* Basin 2 - Storage Only

\*\* Basin 1 and 2 Storage (74,416 gallons)

FACILITY DESCRIPTION (continued)

Land Application:

Irrigation Volume/year: 1,606,000 gallons (including 1-in-10 year flows)  
Irrigation areas: 7 acres at design loading (7 acres total available)  
Application rates/acre: 0.3 inch/hour; 2.0 inches/week; 8.0 inches/year  
Field slopes: less than 15-20 percent  
Equipment type: sprinklers  
Vegetation: grass land  
Application rate is based on: hydraulic loading rate

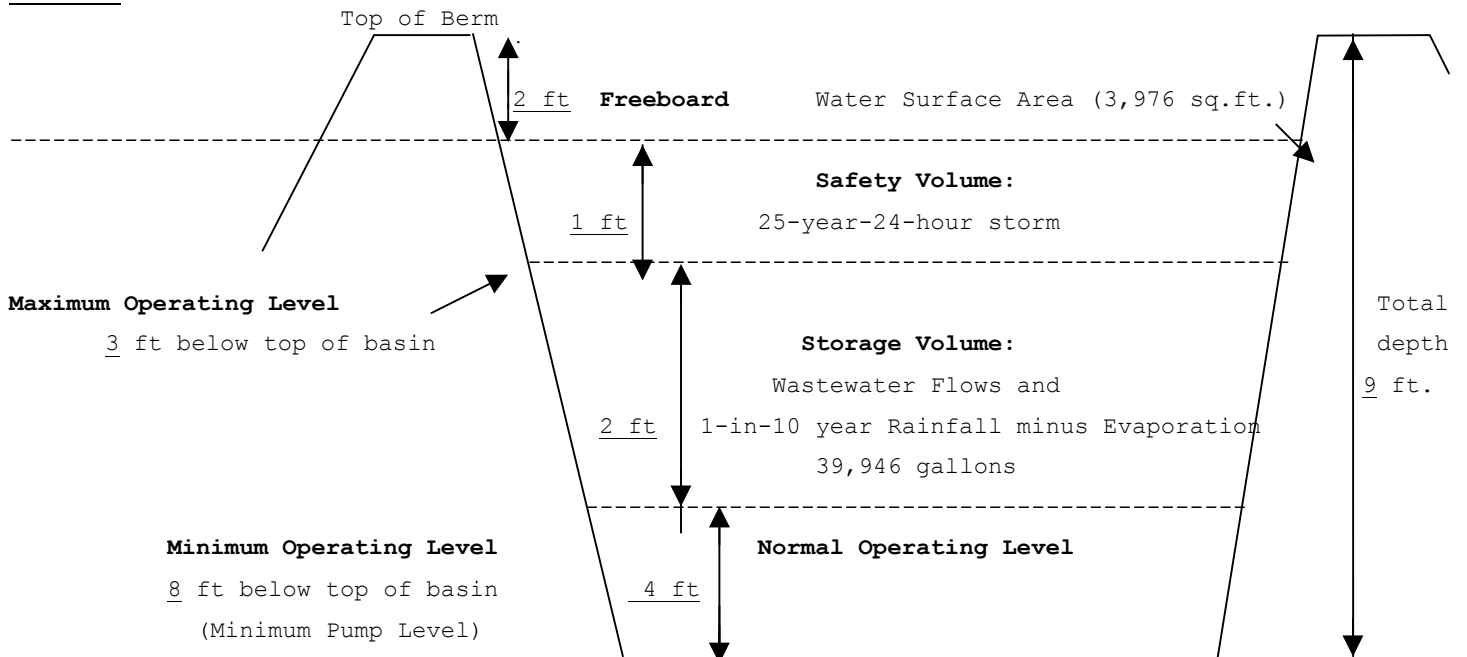
Additional Comments:

Basin 1 is operated at a constant level of 10 feet and contains treatment and sludge storage.

\* 2.0 feet can be used for storage. ( $2304 \text{ ft}^2 \times 2 \text{ ft} = 4608 \text{ ft}^3 = 34,470 \text{ gallons}$ )

Basin 2 is an irrigation storage basin.

Basin 2



| <b>A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS</b>   |                 |                            |                   |                    | PAGE NUMBER 4 of 8       |                    |
|--|-----------------|----------------------------|-------------------|--------------------|--------------------------|--------------------|
|  |                 |                            |                   |                    | PERMIT NUMBER MO-0124630 |                    |
| The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below: |                 |                            |                   |                    |                          |                    |
| OUTFALL NUMBER AND EFFLUENT<br>PARAMETER(S)  | UNITS           | FINAL EFFLUENT LIMITATIONS |                   |                    | MONITORING REQUIREMENTS  |                    |
|  |                 | DAILY<br>MAXIMUM           | WEEKLY<br>AVERAGE | MONTHLY<br>AVERAGE | MEASUREMENT<br>FREQUENCY | SAMPLE<br>TYPE     |
| <u>Outfall #001 - Emergency discharge from lagoon or irrigation sites (Note 1)</u>   |                 |                            |                   |                    |                          |                    |
| Flow   | MGD             | *                          |                   | *                  | once/day**               | 24 hr.<br>estimate |
| Biochemical Oxygen Demand  | mg/L            |                            | 45                | 45                 | once/week**              | grab               |
| Total Suspended Solids   | mg/L            |                            | 45                | 45                 | once/week**              | grab               |
| Fecal Coliform   | #/100mL         | ****                       |                   | ****               | once/week**              | grab               |
| pH - Units   | SU              | ***                        |                   | ***                | once/week**              | grab               |
| Ammonia Nitrogen as N  | mg/L            | ****                       |                   | ****               | once/week**              | grab               |
| Temperature (degrees)  | C               | ****                       |                   | ****               | once/week**              | grab               |
| MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE _____.  |                 |                            |                   |                    |                          |                    |
| <u>Outfall #001 - Land Application Operational Monitoring (Notes 2 &amp; 3)</u>  |                 |                            |                   |                    |                          |                    |
| Lagoon Freeboard   | feet            | *                          |                   |                    | once/month               | measured           |
| Irrigation Period  | hours           | *                          |                   |                    | daily                    | total              |
| Volume Irrigated   | gallons         | *                          |                   |                    | daily                    | total              |
| Application Area   | acres           | *                          |                   |                    | daily                    | total              |
| Application Rate   | inches/<br>acre | *                          |                   |                    | daily                    | total              |
| Rainfall   | inches          | *                          |                   |                    | daily                    | total              |
| MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE _____.   |                 |                            |                   |                    |                          |                    |
| <u>Outfall #001 - Irrigated Wastewater (Notes 4 and 5)</u>   |                 |                            |                   |                    |                          |                    |
| pH - Units   | SU              | ***                        |                   |                    | once/quarter             | grab               |
| Total Kjeldahl Nitrogen as N   | mg/L            | *                          |                   |                    | once/quarter             | grab               |
| Nitrate/Nitrite as N   | mg/L            | *                          |                   |                    | once/quarter             | grab               |
| Ammonia Nitrogen as N  | mg/L            | *                          |                   |                    | once/quarter             | grab               |
| Total Phosphorus as P  | mg/L            | *                          |                   |                    | once/quarter             | grab               |
| MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE _____. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.   |                 |                            |                   |                    |                          |                    |
| <b>B. STANDARD CONDITIONS</b>  |                 |                            |                   |                    |                          |                    |
| IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I and III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.  |                 |                            |                   |                    |                          |                    |

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- \* Monitoring requirement only.
- \*\* Monitor only when discharge occurs. Report as no-discharge when a discharge does not occur during the report period. This facility is required to meet a removal efficiency of 65% or more.
- \*\*\* pH is measured in pH units and is not to be averaged. The pH is to be maintained at or above 6.0 pH units.
- \*\*\*\* Comply with water quality standards per Special Conditions #4.

Note 1 - No-discharge facility requirements. Wastewater shall be stored and land applied during suitable conditions so that there is no-discharge from the lagoon or irrigation site. An emergency discharge may occur when excess wastewater has accumulated above feasible irrigation rates due to precipitation exceeding the 1-in-10-year 365 day rainfall or the 25-year 24-hour storm event.

Note 2 - Records shall be maintained and summarized into an annual operating report, which shall be submitted by January 28th of each year for the previous calendar year period. The report shall include the following:

- a. Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
- b. The number of days the lagoon has discharged during the year, the discharge flow, the reasons discharge occurred and effluent analysis performed; and
- c. A summary of the irrigation operations including freeboard at the start and end of the irrigation season, the number of days of irrigation for each month, the total gallons irrigated, the total acres used, crops grown, crop yields per acre, the application rate in inches/acre per day and for the year, the monthly and annual precipitation received at the facility and summary of testing results.

Note 3 - Lagoon freeboard shall be reported as lagoon water level in feet below the overflow level. See Special Conditions for Wastewater Irrigation System requirements.

Note 4 - Wastewater that is irrigated shall be sampled at the irrigation pump or wet well.

Note 5 - Monitor once per quarter in the months of March, May, July, and September.

C. SPECIAL CONDITIONS

1. Report as no-discharge when a discharge does not occur during the report period.
2. Outfalls must be marked in field and on the topographic site map submitted with the permit application.
3. Permittee will cease discharge by connection to area wide wastewater treatment system within 180 days of notice of its availability.

C. SPECIAL CONDITIONS (continued)

4. Water Quality Standards

- a. Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
- b. General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
  - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
  - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
  - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
  - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
  - (5) There shall be no significant human health hazard from incidental contact with the water;
  - (6) There shall be no acute toxicity to livestock or wildlife watering;
  - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
  - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

5. This permit may be reopened and modified, or alternatively revoked and reissued, to:
  - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
    - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
    - (2) controls any pollutant not limited in the permit.
  - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
  - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

6. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities

- (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
- (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.

7. Lagoons and earthen basins shall have a liner that is designed, constructed and maintained in accordance with 10 CSR 20-8.020(13)(A)4. If operating records indicate excessive percolation, the department may require a water balance test in accordance with 10 CSR 20-8.020(16) or other investigations to evaluate adequacy of the lagoon seal. The department may require corrective action as necessary to eliminate excess leakage.



C. SPECIAL CONDITIONS (continued)

8. Annual Report. (Outfall #001)

An annual report is required in addition to the quarterly reporting under Section A of this permit. The annual report shall be submitted by January 28 of each year for the previous growing season from October 1 through September 30 or an alternate 12 month period approved by the Department and listed in the Operation and Maintenance Manual. This report shall be submitted using report forms approved by the Department and shall include a summary of the monitoring and record keeping required by the Special Conditions and Standard Conditions of this permit.

9. Wastewater Irrigation System.

a. Discharge Reporting. Any unauthorized discharge from the lagoon or irrigation system shall be reported to the department as soon as possible but always within 24 hours. Discharge is allowed only as described in the Facility Description and Effluent Limitations sections of this permit.

b. Irrigation Design. Design and operation shall be in accordance with 10 CSR 20-8.020(15). Permittee shall operate the land application system in accordance with the design parameters listed in the Facility Description section of this permit:

(1) No-Discharge System. When the Facility Description is "No-Discharge", wastewater must be stored and irrigated at appropriate times. There shall be no-discharge from the irrigation site or storage lagoon except due to precipitation exceeding either the 1-in-10 year rainfall event for the design storage period or the 25-year-24-hour rainfall event.

c. Lagoon Operating Levels - No-discharge Systems. The minimum and maximum operating water levels for the storage lagoon shall be clearly marked. Each lagoon shall be operated so that the maximum water elevation does not exceed one foot below the overflow point except due to exceedances of of the 1-in-10 year or 25-year-24 hour storm events. Wastewater shall be land applied whenever feasible based on soil and weather conditions and permit requirements. Storage lagoon(s) shall be lowered to the minimum operating level prior to each winter by November 30.

d. Emergency Spillway. Lagoons and earthen storage basins should have an emergency spillway to protect the structural integrity of earthen structures during operation at near full water levels and in the event of overflow conditions. The spillway shall be at least one foot below top of berm. The department may waive the requirement for overflow structures on small existing basins.

e. General Irrigation Requirements. The wastewater irrigation system shall be operated so as to provide uniform distribution of irrigated wastewater over the entire irrigation site. A complete ground cover of vegetation shall be maintained on the irrigation site unless the system is approved for row crop irrigation. Wastewater shall be land applied only during daylight hours. The wastewater irrigation system shall be capable of irrigating the annual design flow during an application period of less than 100 days or 800 hours per year.

f. Saturated/Frozen Conditions. There shall be no irrigation during frozen, snow covered, or saturated soil conditions.

g. Buffer Zones. There shall be no irrigation within 300 feet of any down gradient pond, lake, sinkhole, losing stream or water supply withdrawal; 100 feet of gaining streams or tributaries; 150 feet of dwelling; or 50 feet of the property line.

C. SPECIAL CONDITIONS (continued)

9. Wastewater Irrigation System (continued)

- h. Public Access Restrictions. Public access shall not be allowed to the irrigation site(s).
- i. Equipment Checks during Irrigation. The irrigation system and application site shall be visually inspected at least once/day during wastewater irrigation to check for equipment malfunctions and runoff from the irrigation site.
- j. Operation and Maintenance Manual. The permittee shall develop, maintain and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and land application systems. Copies of the O&M Manual and subsequent revisions shall be submitted to the department's Water Pollution Control Program and Regional Office for review and approval. The O&M Manual shall be reviewed and updated at least every five years.